

GILA RIVER BASIN

09486500 SANTA CRUZ RIVER AT CORTARO, AZ

LOCATION.--Lat 32°21'04", long 111°05'38", in NW1/4NW1/4NW1/4 sec. 35, T.12 S., R.12 E., Pima County, Hydrologic Unit 15050302, at center column of bridge pier on left bank, 0.5 mi southwest of Cortaro, 1 mi downstream from Ina Road treatment plant, 2.6 mi downstream from Canada del Oro, and 3.7 mi downstream from Rillito Creek.

DRAINAGE AREA.--3,503 mi², of which 395 mi² is in Mexico.

PERIOD OF RECORD.--Oct. 1939 to June 1947 (published as "at Rillito"), July 1950 to Sept. 1984, Mar. to June 1990, July to Sept. 1990 (fragmentary record), Oct. 1990 to current year.

REVISED RECORDS.--WSP 1283: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,100.00 ft, above sea level. Prior to June 30, 1947, at site 5.5 mi downstream at different datum. July 8, 1950, to Jan. 20, 1966, at present site at datum 19.11 ft lower. Jan. 20, 1966, to Sept. 30, 1984, at present site and datum 23.11 ft lower. Aug. 1 to Oct. 19, 1990, at site on right bank 0.33 mi downstream from bridge at datum 30.20 ft lower. Apr. 10 to May 17, 1991, at site on bridge, 200 ft toward right bank, at different datum. Supplementary water-stage recorder on downstream site on left bridge pier at datum 19.11 ft lower Aug. 29, 1969, to Sept. 30, 1984. Temporary water-stage recorder on right bank Oct. 27, 1983, to Sept. 30, 1984, at datum 20.80 ft lower. Prior to May 8 at site 300 ft upstream at different datum.

REMARKS.--Records good, except for estimated daily discharges, which are poor. Many diversions above station, mostly by pumping from ground water, for irrigation of about 34,000 acres. Waste water from irrigation and from sewage-disposal plants is included in flow past station in water years 1951, 1952, 1970--82, 1990--97.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,000 ft³/s Oct. 2, 1983, gage height 16.57 ft from floodmark, computed by flood-routing method from Santa Cruz River at Tucson and Rillito Creek at Tucson; no natural flow for most of each year. (See REMARKS)

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 14.....	0045	*5,420	*9.25
Sept. 18.....	2100	5,160	9.19

Minimum daily discharge, 55 ft³/s on Dec. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	63	70	69	80	87	74	73	67	66	69	78
2	65	66	66	81	80	87	151	73	64	65	68	82
3	65	70	64	82	82	83	117	76	70	62	70	81
4	62	66	67	84	82	216	112	76	68	61	71	119
5	60	68	67	81	87	153	90	76	64	61	75	191
6	60	76	64	78	84	149	78	76	60	65	154	75
7	65	73	65	80	87	150	78	79	61	60	74	75
8	68	73	66	79	73	215	80	74	59	63	73	74
9	68	69	65	79	79	156	83	71	63	66	94	73
10	153	72	64	82	76	95	76	70	63	65	98	74
11	78	71	64	82	75	77	77	68	63	63	68	79
12	65	118	67	83	82	73	76	69	62	67	96	80
13	66	483	69	83	80	78	78	75	62	67	500	81
14	66	74	69	75	79	83	75	71	66	86	517	79
15	63	75	67	86	76	75	78	73	62	69	72	79
16	72	70	66	87	81	74	75	73	64	68	66	78
17	70	72	66	88	75	69	79	75	e63	82	72	82
18	72	70	66	84	72	77	69	73	e64	162	66	776
19	64	69	69	86	77	77	78	68	e61	117	107	357
20	69	72	68	83	75	75	74	74	e60	69	66	80
21	69	74	68	81	76	72	75	75	e67	69	66	77
22	62	70	68	102	76	76	76	68	64	71	66	74
23	70	72	66	97	88	72	77	68	67	85	66	73
24	68	68	67	85	83	74	76	68	70	157	67	72
25	65	68	55	76	76	78	77	68	70	65	72	74
26	63	67	58	79	81	77	80	66	71	64	75	73
27	67	75	67	79	79	74	75	69	64	243	69	74
28	67	64	66	78	94	72	66	69	67	252	68	71
29	63	65	70	82	81	69	73	67	64	148	73	72
30	68	71	69	89	---	70	76	62	66	68	72	74
31	70	---	71	82	---	71	---	66	---	66	68	---
TOTAL	2139	2564	2054	2562	2316	2954	2449	2209	1936	2772	3238	3427
MEAN	69.0	85.5	66.3	82.6	79.9	95.3	81.6	71.3	64.5	89.4	104	114
MAX	153	483	71	102	94	216	151	79	71	252	517	776
MIN	56	63	55	69	72	69	66	62	59	60	66	71
AC-FT	4240	5090	4070	5080	4590	5860	4860	4380	3840	5500	6420	6800
CFSM	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.03	0.03	0.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

MEAN	51.5	32.2	81.5	99.0	49.3	42.0	22.6	21.1	22.4	76.7	118	62.1
MAX	744	228	1044	2485	252	496	104	71.3	84.9	393	868	358
(WY)	1978	2001	1979	1993	1995	1978	1998	2004	2000	1954	1955	1964
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.69	1.97	0.00
(WY)	1940	1943	1943	1943	1943	1940	1940	1940	1941	1960	1962	1953

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004		
ANNUAL TOTAL	34553		30620				
ANNUAL MEAN	94.7		83.7		57.5		
HIGHEST ANNUAL MEAN					262		
LOWEST ANNUAL MEAN					2.59		
HIGHEST DAILY MEAN	1870	Aug 26	776	Sep 18	40000	Oct 2	1983
LOWEST DAILY MEAN	55	Dec 25	55	Dec 25	0.00	Oct 1	1939
ANNUAL SEVEN-DAY MINIMUM	61	Sep 30	62	Jun 6	0.00	Oct 1	1939
ANNUAL RUNOFF (AC-FT)	68540		60730		41630		
ANNUAL RUNOFF (CFSM)	0.027		0.024		0.016		
10 PERCENT EXCEEDS	81		88		73		
50 PERCENT EXCEEDS	71		73		18		
90 PERCENT EXCEEDS	64		64		0.00		

e Estimated